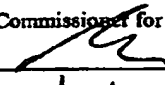


JAN 18 2005

PATENT  
ATTORNEY DOCKET NO.: **PARSE-US**  
CUSTOMER NO: 36038**In the United States Patent & Trademark Office**

<b>Applicants:</b> M. Seul et al.	<b>Examiner:</b> P. Kim
<b>Serial No.:</b> 10/098,604	<b>Group Art Unit:</b> 2851
<b>Filed:</b> 3/16/2002	
<b>For:</b> System and method for programmable illumination pattern generation	I hereby certify that, on the date indicated below, this correspondence was sent by fax to the Commissioner for Patents, at (703) 872-9306. By:  Date: 1/18/05

**Response to Office Action**

Commissioner for Patents  
PO BOX 1450  
Alexandria VA 22313-1450

Dear Sir:

In response to the Office Action of 11/18/2004, Applicant requests entry of the claim listing enclosed, beginning on page 5.

The Examiner has noted that page 6 of the IDS filed on 8/23/2003 is illegible, and the "Microsphere Guide" document was not included. A new page 6 and the document are included. If there is any charge in connection with this submission, please charge it to Deposit Account No. 502088. The Examiner is also requested to acknowledge receipt of all currently and previously filed form 1449s, and enter them into the record by initialing them, and then returning a copy to the undersigned.

The Examiner rejected claims 1 to 6 and 28 over Jain et al. in view of Markami.

Neither Jain et al. nor Markami disclose the elements in amended claim 1 that:

said substrate displaying lowered impedance in regions on its surface where it is illuminated, said illumination pattern having a predetermined arrangement of light and dark zones, said apparatus comprising:

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an illumination source capable of selectively illuminating a surface of the substrate, whereby upon application of an AC voltage to the substrate, the electric field in the illuminated regions of the surface is greater than in the non-illuminated regions of the surface;

Accordingly, the claimed invention is non-obvious for this reason alone. In addition, Jain et al. relates to a "maskless lithography system" (see Title), relating to photolithography. Accordingly, in Jain et al. and Murakami, there is no reconfigurable mask, as required in the claims.

Moreover, Murakami relates to chemical vapor deposition (CVD) on a substrate. There is no suggestion to combine these disclosures in the manner the Examiner advocates, because the camera discussed in Murakami does not resolve the illumination pattern, because CVD deposits a film over the entire substrate surface, so one does need a camera (or imaging system) to resolve an illumination pattern, as required in the claims. The camera in Murakami confirms the process of the deposition only, not illumination, as in the claims. Moreover, the purposes of Jain et al. and Murakami are so different that there would not be any suggestion to combine them. Jain et al.'s lithography system is very different from Murakami's CVD process. Thus, the rejection of claims 1-6 and 28 should be withdrawn.

The Examiner has rejected claim 15 over Jain et al., Murakami and Datta et al., noting that "Jain does not disclose a substrate comprising planar electrode separated by a gap containing electrolyte ..." but claiming that "Datta discloses ... a substrate with electrodes and gap filled with electrolyte." However, it is clear that Datta does not disclose a: "light-sensitive planar electrode being aligned with another planar electrode in substantially parallel arrangement, with said electrodes being separated by a gap, and the gap containing an electrolyte solution which is in contact with said electrodes and which contains colloidal particles suspended in the electrolyte solution." In Datta, the, "substrate 10, metal film 20 and photoresist layer 30 are removably attached to the underside of the substrate holder 124. The clearance between the top surface of the nozzle plate 128 and the photoresist layer 30 ... is 2 to 5 mm." See col. 11, line 66 to col. 12, line 4. The photoresist layer 30 is not an electrode, and the claimed requirement of a two planar electrodes is not met. Moreover, there is no disclosure or suggestion of

colloidal particles in the electrolyte solution in any of the references. In addition, there is no disclosure or suggestion of a "light sensitive planar electrode aligned with another planar electrode" as required in the claims. Moreover, Datta is directed to electroetching, and there is no suggestion to combine such a disparate system with the maskless lithography system of Jain and/or the CVD system of Murakami.

The Examiner has also rejected claim 7 over Jain in view of Murakami and Datta. This rejection should be withdrawn for the same reasons as set forth above regarding claim 15, and also because claim 7 requires that the gap "contains colloidal particles suspended at an interface between the light-sensitive electrode and the electrolyte solution, and wherein the illumination pattern is projected onto said light-sensitive electrode so as to control the assembly and lateral motion of said colloidal particles, said assembly and lateral motion being induced by a time-varying electric field applied between said electrodes." These elements (colloidal particles, etc.) are not in any of the references.

The Examiner has also rejected claims 29 to 31 over Jain and Murakami in view of Walt et al. The Examiner alleges that Walt discloses "generating a pattern on the surface of substrate by exposure to solvent, a chemical reaction and the wavelength of light in the visible spectrum (col. 12, line 60-col. 13, line 33, col. 15, lines 1-23)." These sections of Walt do not disclose what the Examiner alleges. At Col. 12-13, this section deals with swelling of microparticles to fix them in wells, where the wells were formed in the ends of an array of fibers. At col. 15, the subject matter relates to imaging of the microspheres which have been fixed in the wells, by exposing them to light, in order to "decode" the signals in the microspheres so that the biomolecules associated with them can be ascertained. The "solvent for patterning a substrate" alleged by the Examiner is not mentioned, nor is any such patterning performed by "a chemical reaction and light in the visible spectrum." In addition, there is no motivation to combine the disparate fiber optic assay system of Walt with the devices in Jain and Murakami. Accordingly, the subject matter of these claims is nonobvious for the same reasons as claim 28, and for the additional reasons set forth above.

Accordingly, all claims are in condition for allowance and such action is earnestly sought.

Accordingly, all claims are in condition for allowance and such action is earnestly sought.

Respectfully Submitted,

BY: 

Eric P. Mirabel  
Reg. No. 31,744  
Bioarray Solutions, Ltd.  
35 Technology Drive  
Warren NJ 07059  
(908) 226 8200 (ext 203)

Applicants) hereby petitions for any extension of time or for any other grounds needed to make this submission timely and proper. The Commissioner is hereby authorized to charge any fees due in connection with this submission and not otherwise covered by payment included herewith, or to credit any overpayment, to Deposit Account No. 502088.